

TWO NEW SPECIES OF THE GENUS *RHINOPIA* BALOGH, 1983 (ACARI: ORIBATIDA) FROM TURKEY¹

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ABSTRACT: Two new species belonging to the genus *Rhinoppia* of the family Oppiidae were described and illustrated based on adult specimens collected from Artvin province, Turkey. One of these species, *Rhinoppia artvinensis* n. sp., was found in litter and soil under plum trees (*Prunus domestica*), and the second species, *Rhinoppia tasdemiri* n. sp., was found in moss pads on the ground in a mixed forest (mostly *Pinus sylvestris*) and in the same place as for the previous new species.

KEY WORDS: Acari, Oribatida, *Rhinoppia*, Systematics, new species, Artvin, Turkey

The genus *Rhinoppia* was established by Balogh (1983) within the subfamily Oppiellinae Seniczak, 1975. And then, Subias and Balogh (1989) considered that this genus had to be excluded from the Oppiellinae, and placed it within the Medioppiinae. On the basis of the presence of four pairs of genital setae, Subias (2004) stated that there is only one species in the genus *Rhinoppia*. Later, Weigmann (2006) stated that there are six pairs of genital setae instead of four pairs of genital setae mentioned for the type species. He also synonymized the genera *Medioppia*, *Kunoppia*, *Lauroppia*, *Ctenoppiella* with *Rhinoppia*. So far, 26 species of the genus *Rhinoppia* are known (Subias 2007). Of these, two species viz. *Rhinoppia obsoleta* (Paoli, 1908) and *Rhinoppia subpectinata* (Oudemans, 1900) have been recorded before from Turkey (Özkan et al., 1994; Erman et al., 2007).

This paper describes two new species, *Rhinoppia artvinensis* n.sp. and *Rhinoppia tasdemiri* n.sp. on the basis of the materials collected from Artvin Province, Turkey.

METHODS

The specimens were collected in moss, soil, and litter samples from Artvin province and extracted using a Berlese funnel apparatus. They were fixed and stored in 70% ethanol. The specimens were sorted from the samples under a stereo microscope and mounted on slides in modified Hoyer's medium. Measurements and illustrations were made using a standard light microscope equipped with a drawing attachment.

The terminology used in this paper follows Grandjean (see Trave and Vachon, 1975), Balogh (1983) and Subias and Balogh (1989). All measurements are given in micrometers (µm).

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SYSTEMATIC ACAROLOGY

Acari: Oribatida: Oppioidea: Oppiidae: Medioppiinae
Rhinoppia Balogh, 1983

Rhinoppia artvinensis, NEW SPECIES

(Figs. 1-7)

Type Locality. TR. Artvin Prov. - Yusufeli, Bahçeli village, 850 m a.s.l., 20 September 1992.

Description. Holotype:

Measurements: Body length: 312-348 (holotype: 344), body width: 168-180 (holotype: 172). Ten specimens were measured.

Prodorsum (Figs. 1, 3): Rostrum elongate, nasiform, projecting medially, not incised. The rostral setae (*ro*) smooth, 22 in length. Lamellar setae (*le*) thin, smooth, 10 in length. Interlamellar setae (*in*) thick, 8 in length. Lamellar setae nearer to interlamellar setae than to rostral setae. A pair of tubercles behind the interlamellar setae present. The *le-le* distance is shorter than the *in-in*. Exobothridial setae (*exa*) smooth, directed towards centre of prodorsum. Two bothridial costulae, oriented in an anterior direction, and slightly convergent. Bothridia round, with small opening. Sensilli fusiform, medium long, its head expanded, short ciliated unilaterally.

Notogaster (Fig. 1): Oval shaped, anterior border convex. Crista absent. Ten pairs of smooth notogastral setae present, all different in length.

Ventral side (Fig. 2): Labiogenal articulation arched. Infracapitulum 72 in length, 48 in width. Setae *h* 2 in length. Distance *h-h* 16 in length. Prodorsum widest at *pdI* level. Epimeral borders distinctly visible and strongly sclerotized. Epimeral setal formula 3-1-3-3. Genital plates 36 in length, 40 in width, with six pairs of setae. Anal plates 46 in length, 48 in width, with two pairs of setae. One pair of aggenital and three pairs of adanal setae. Distance between genital and anal plates 82. Fissurae *iad* situated in para-anal position. Adanal setae *ad*₁ in postanal, *ad*₂ in para-anal and *ad*₃ in preanal positions.

Legs: Formula of leg setation (trochanter to tarsus): I (1-5-2+1-4+2-21+2); II (1-5-2+1-4+1-13+2); III (2-3-1+1-3+1-12); IV (1-2-2-3+1-10). Structure and setation of legs I-IV as shown in Figures 4-7.

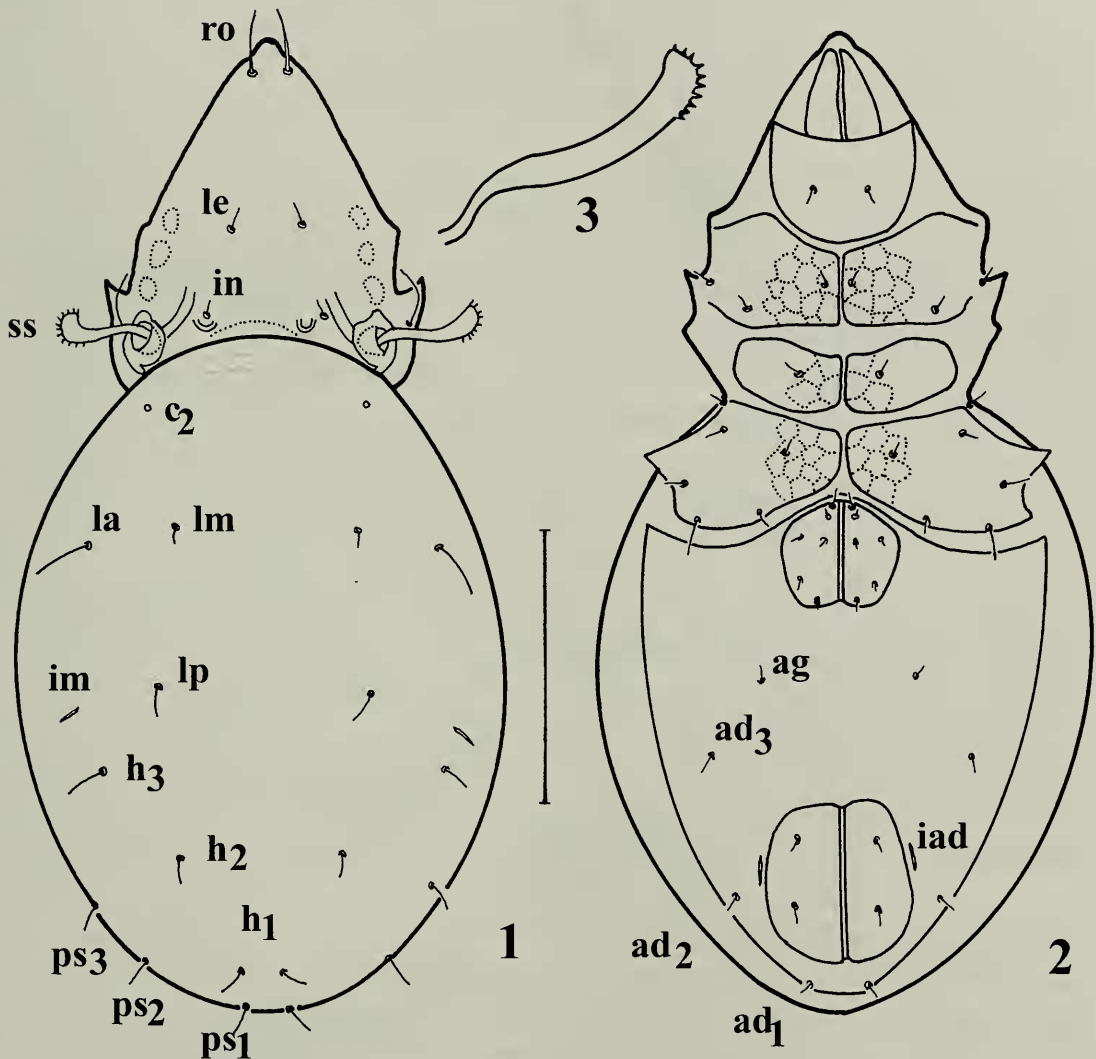
Material Examined: The type material is deposited in the Acarological Collection of the Zoological Museum, Erciyes University, Kayseri, Turkey (ZMEU). Holotype (ZMEU: 1) and 28 paratypes (ZMEU: 2-29) collected from litter and soil under plum trees (*Prunus domestica*), Bahçeli village, Yusufeli, Artvin, Turkey; 850 m a.s.l.; 20 September 1992.

Discussion: This new species resembles *Rhinoppia hygrophila* (Mahunka, 1987) by having a pair of bothridial costulae. However; it can be distinguished from *R. hygrophila* by the following features: 1) ratio of prodorsal setae: *in* < *le* < *ro* = *ex* in the new species (ratio of prodorsal setae: *le* < *ro* < *ex* < *in* in *R. hygrophila*); 2) sensilli fusiform, medium long, their head expanded, short ciliated unilaterally in the new species (sensilli very long, their head dilated, with 2-3

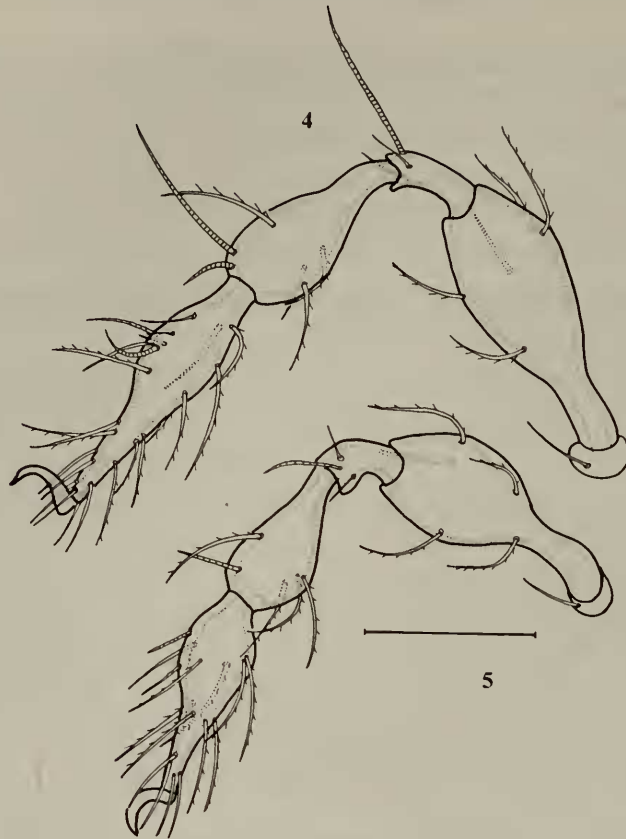
cilia in *R. hygrophila*); 3) all notogastral setae different in length in the new species (all notogastral setae nearly equal in length in *R. hygrophila*).

This new species also resembles *Rhinoppia obsoleta* (Paoli, 1908) by the shape of sensilli (Paoli, 1908; Woas, 1986; Arillo and Subias, 1996; Subias and Arillo, 2001). However; it can be distinguished from *R. obsoleta* by the following features: 1) bothridial costulae present in the new species (absent in *R. obsoleta*); 2) the anterior notogastral margin convex in the new species (the anterior notogastral margin truncate in *R. obsoleta*).

Etymology: The species is named after its locality which is Artvin province, Turkey.



Figs. 1-3. *Rhinoppia artvinensis* n.sp. – 1. Dorsal view; 2. Ventral view; 3. Sensillus (scale bar for all drawings = 100 μ m).



Figs. 4, 5. *Rhinoppia artvinensis* n.sp. – Trochanter to tarsus: 4. Leg I, 5. Leg II (scale bar for all drawings = 40 μ m).



Figs. 6, 7. *Rhinoppia artvinensis* n.sp. – Trochanter to tarsus: 6. Leg III, 7. Leg IV (scale bar for all drawings = 40 μ m).

***Rhinoppia tasdemiri*, NEW SPECIES**

(Figs. 8-13)

Type Locality. TR. Artvin Prov.- Yusufeli, Bahçeli village, 1350 m a.s.l., 20 September 1992 for Holotype and 30 paratypes; same locality as above, 850 m a.s.l., 20 September 1992 for 12 paratypes.

Description. Holotype:

Measurements: Body length: 356-388 (holotype: 356), body width: 172-212 (holotype: 176). Ten specimens were measured.

Prodorsum (Fig. 8): Rostrum elongate, nasiform, projecting medially, not incised. The rostral setae smooth, 22 in length. Lamellar setae thin, smooth, 2 in length. Interlamellar setae thick. Lamellar setae nearer to interlamellar setae than to rostral setae. The *le-le* distance are shorter than the *in-in*. Exobothridial setae smooth. Lamellar costulae absent. Bothridia round, with small opening. Sensilli long and their head being dilated, short ciliated bilaterally.

Notogaster (Fig. 8): Oval shaped. Crista absent, but there is a pair of short, diverging ridges extending across the sejugal groove. Ten pairs of smooth notogastral setae present.

Ventral side (Fig. 9): Labiogenal articulation arched. Infracapitulum 78 in length, 50 in width. Setae *h* 6 in length. Distance *h-h* 14 in length. Prodorsum widest at *pdI* level. Epimeral borders distinctly visible and strongly sclerotized. Epimeral setal formula 3-1-3-3. Genital plates 30 in length, 36 in width, with six pairs of setae. Anal plates 64 in length, 58 in width, with two pairs of setae. One pair of aggenital and three pairs of adanal setae. Distance between genital and anal plates 76. Fissurae *iad* situated in para-anal position. Adanal setae *ad*₁ in postanal, *ad*₂ in para-anal and *ad*₃ in preanal positions.

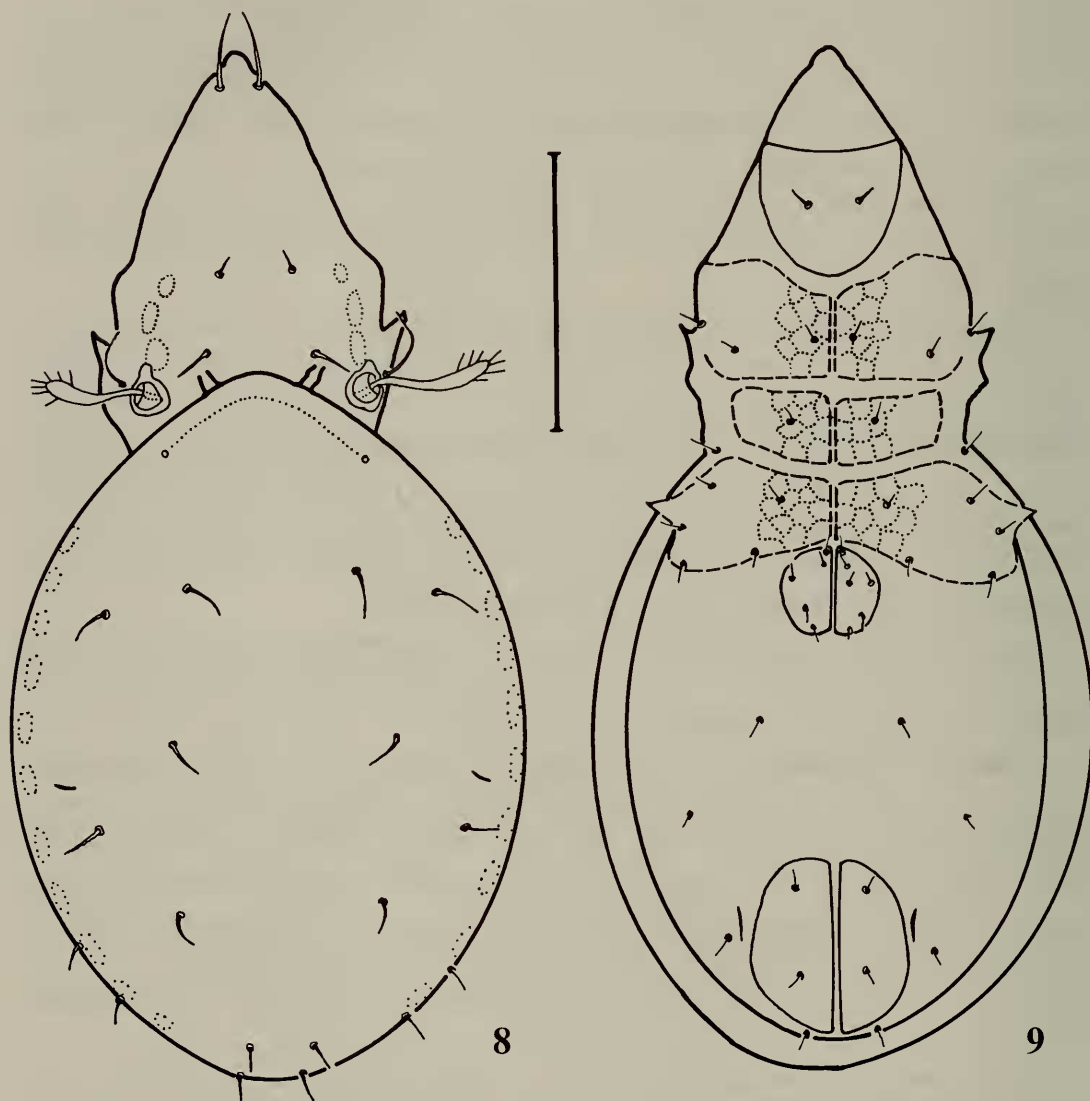
Legs: Formula of leg setation (trochanter to tarsus): I (1-5-2+1-4+2-21+2); II (1-5-2+1-4+1-13+2); III (2-3-1+1-3+1-12); IV (1-2-2-3+1-10). Structure and setation of legs I-IV as shown in Figures 10-13.

Material Examined: The type material is deposited in the Acarological Collection of the Zoological Museum, Erciyes University, Kayseri, Turkey (ZMEU). Holotype (ZMEU: 30) and 30 paratypes (ZMEU: 31-61) collected from moss pads on the ground in a mixed forest (mostly *Pinus sylvestris*), Bahçeli village, Yusufeli, Artvin, Turkey, 1350 m a.s.l., 20 September 1992; 12 paratypes (ZMEU: 62-74) collected from litter and soil under plum trees (*Prunus domestica*), Bahçeli village, Yusufeli, Artvin, Turkey; 850 m a.s.l., 20 September 1992.

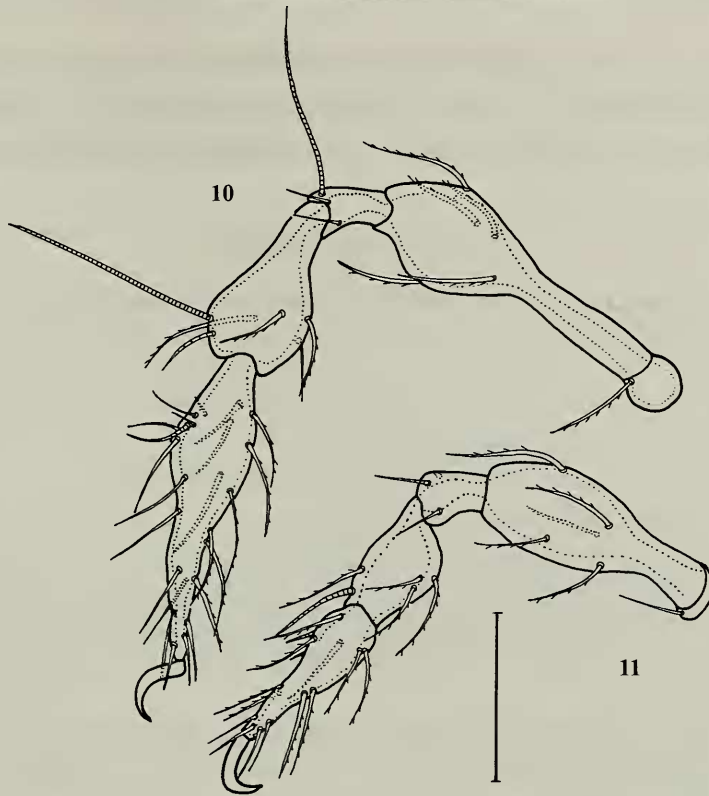
Discussion: This new species resembles *Rhinoppia plumata* (Gordeeva and Karppinen, 1988) by the shape of sensilli. However, it can be distinguished from *R. plumata* by the following features: 1) rostral apex elongate, nasiform in the new species (rostral apex elongate, not nasiform in *R. plumata*); 2) interlamellar setae not extended to the setae *c*₂ in the new species (interlamellar setae extend to the setae *c*₂ in *R. plumata*); 3) sensilli as long as 30% of the length of prodorsum (about 111) in the new species (sensilli as long as 70% of the length of

prodorsum (about 115) in *R. plumata*); 4) longitudinal ridges absent between setae *le* and *in* in the new species (longitudinal ridges present between setae *le* and *in* in *R. plumata*); 5) body measurement in Holotype: 356/176 (body measurement in Holotype: 325 /180 in *R. plumata*).

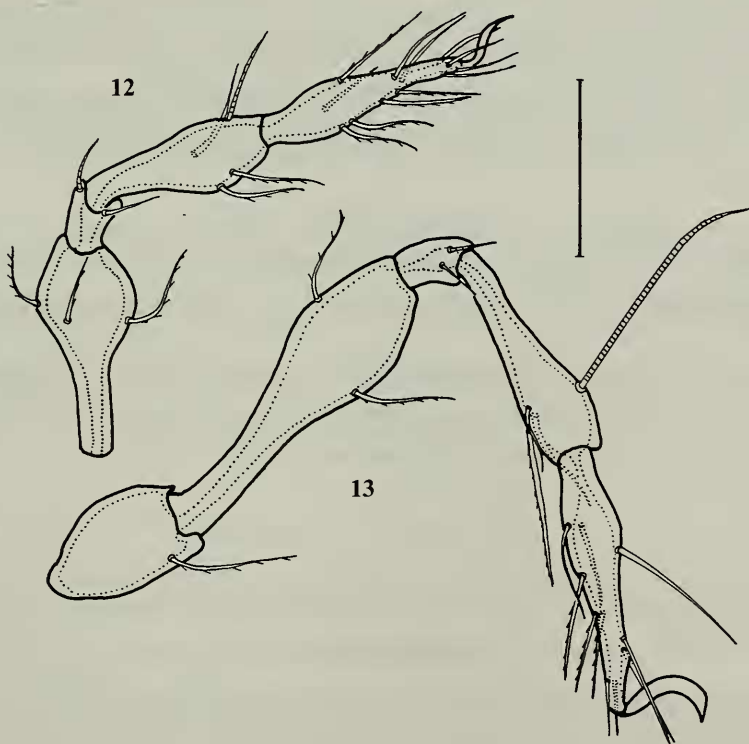
Etymology: This species is named after Abdulkadir Taşdemir (Erciyes University) our colleague.



Figs. 8, 9. *Rhinoppia tasdemiri* n.sp. – 8. Dorsal view; 9. Ventral view (scale bar for all drawings = 100 μ m).



Figs. 10, 11. *Rhinoppia tasdemiri* n.sp. – Trochanter to tarsus: 10. Leg I, 11. Leg II (scale bar for all drawings = 40 μ m).



Figs. 12, 13. *Rhinoppia tasdemiri* n.sp. – Trochanter to tarsus: 12. Leg III, trochanter removed, 13. Leg IV (scale bar for all drawings = 40 μ m).

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ERRATUM

Entomological News 119(2), p. 211, incorrectly reported the name of the first runner-up for the Calvert Award as Mr. Matthew Nicewater. The correct name is Mr. Matthew Nicewinter.